

Notice of Allowability**Application No.**

10/688,283

Applicant(s)

LOOMIS ET AL.

Examiner

JOSHUA JOO

Art Unit

2454

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/23/09.
2. ☒ The allowed claim(s) is/are 1,3-11,13-21 and 23-45.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 08/11/10.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

/Joshua Joo/
Examiner, Art Unit 2454

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 08/23/04, 03/05/08, 12/10/09, 4/20/10, 7/20/10.

Detailed Action

This Office action is in response to Applicant's communication filed on December 10, 2009.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on December 10, 2009 has been entered.

Information Disclosure Statement

The information disclosure statements (IDS) submitted December 10, 2009, April 20, 2010, and July 20, 2010 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the IDS are considered by the Examiner.

The IDS filed on August 23, 2004 and March 05, 2008 are reconsidered. Regarding the IDS filed on August 23, 2004, on page 3, documents V, W, X, Z, and A1 fail to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the documents are identified by a date of publication. Regarding document A2, while there is a copy of the document titled "HELIX UNIVERSAL GATEWAY CONFIGURATION GUIDE" Blueprint Series, dated July 21, 2002, which corresponds to document Y, there does not appear to be a copy of document A2 dated July 2002. Regarding the IDS filed on March 05, 2008, documents 1-7, 10-12, and 34 fail to identify the documents by a date of publication.

Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of

submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

Prior of art of record teach of delivering a stream by retrieving files associated with a playlist to a requesting user (e.g. Rothman et al. US Publication No. 2001/0044851); creating a composite media stream by joining collected data segments and delivering the composite stream to a client (e.g. Lambert et al. US Publication No. 2005/0114529); and requesting files from a playlist (e.g. Ireton, US Patent No. 7,043,479, Ching et al. US Patent No. 7,222,354). However, the prior of art record, alone or in combination, do not fairly teach or suggest the claims in the below Examiner's Amendment.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Davin Chin, Reg. No. 58,413 on August 11, 2010. To summarize, claims 1, 3, 6, 10-11, 14-16, 21, 23-26, 30-31, 33, 36-37, and 39 are amended. Claims 40-45 are added. For a further explanation of the amendment and telephone interview, please see the attached Examiner-Initiated Interview Summary.

The application is amended as follows:

Specification

Please replace the paragraphs starting on page 3, lines 12 and ending on page 4, line 31 with the following:

Other structures and methods have been described for the distribution of content in a network environment, such as: Streaming Information Providing Method, European STREAM SOURCING CONTENT DELIVERY SYSTEM patent application Ser. No. 1187 423; O. Hodson, C. Perkins, and V. Hardman, Skew Detection and Compensation for Internet Audio Applications; 2000 IEEE International Conference on Multimedia and Expo; 2000; C. Aurrecoechea, A. Campbell, and Linda Hauw, A Survey of Qos Architectures, Center for Telecommunication Research, Columbia University; ~~www.cer.columbia.edu/comet/members.html~~; S. Cen, C. Pu, R. Stachli, and J. Walpole, A Distributed Real-Time MPEG Video Audio Player, Oregon Graduate Institute of Science and Technology; N. Manouselis, P. Karampiperis, I. Vardiambasis, and A. Maras, Digital Audio Broadcasting Systems under a Qos Perspective, Telecommunications Laboratory, Technical University of Crete; Helix Universal Gateway Configuration Guide, RealNetworks Technical Blueprint Series; Jul. 21, 2002; Helix Universal Server from RealNetworks; ~~www.realnetworks.com~~; Helix Universal Gateway, ~~www.realnetworks.com~~; Helix Universal Server, ~~www.realnetworks.com~~; Media Delivery, ~~www.realnetworks.com~~; and Windows Media Services 9 Series, ~~www.microsoft.com~~.

Other systems describe various details of audio distribution, streaming, and/or the transfer of content in a network environment, such as G. France and S. Lee, Method for Streaming Transmission of Compressed Music, U.S. Pat. No. 5,734,119; D. Marks, Group Communications Multiplexing System, U.S. Pat. No. 5,956,491; M. Abecassis, Integration of Music From a Personal Library with Real-Time Information, U.S. Pat. No. 6,192,340; J. Logan, D. Goessling, and C. Call, Audio Program Player Including a Dynamic Program Selection Controller, U.S. Pat. No. 6,199,076; E. Sitnik, Multichannel Audio Distribution System Having Portable Receivers, U.S. Pat. No. 6,300,880; M. Bowman-Amuah, Method For Providing Communication Services Over a Computer Network System, U.S. Pat. No. 6,332,163; H. Ando, S. Ito, H. Takahashi, H. Unno, and H. Sogabe, Information Recording Device and A

Method of Recording Information by Setting the Recording Area Based on Contiguous Data Area, U.S. Pat. No. 6,530,037; P. Hunt and M. Bright, Method and Apparatus for Intelligent and Automatic Preference Detection of Media Content, U.S. Patent Application Publication No. U.S. Pat. No. 2002 0078056; G. Beyda and K. Balasubramanian, Hybrid Network Based Advertising System and Method, U.S. Patent Application Publication No. U.S. Pat. No. 2002 0082914; System and Method for Delivering Plural Advertisement Information on a Data Network, International Publication Number WO 02/063414; Method for Recording and/or Reproducing Data on/from Recording/Recorded Medium, Reproducing Apparatus, Recording Medium, Method for Recognizing Recording/Recorded Medium, and Method for Recording and/or Reproducing Data for Apparatus Using Recording/Recorded Medium, European Patent Application No. EP 1 178 487; Method and System for Securely Distributing Computer Software Products, European Patent Application No. EP 1 229 476; Information Transmission System, Information Transmission Method, Computer Program Storage Medium Where Information Transmission Program is Stored, European Patent Application No. EP 1 244 021; Digital Content Publication, European Patent Application No. EP 1 267 247; File and Content Management, European Patent Application No. EP 1 286 351; S. Takao; Y. Kiyoshi; W. Kazuhiro; E. Kohei. Packet Synchronization Recovery Circuit; Section: E, Section No. 1225, Vol. 16, No. 294, Pg. 120; Jun. 29, 1992; R. Sion, A. Elmagarmid, S. Prabhakar, and A. Rezgui, Challenges in Designing a Qos Aware Media Repository, Purdue University, <http://www.cs.purdue.edu/homes/sion>; Z. Chen, S. Tan, R. Campbell, and Y. Li, Real Time Video and Audio in the World Wide Web, University of Illinois at Urbana-Champaign; Content Networking with the Helix Platform, RealNetworks White Paper Series; Jul. 21, 2002; C. Hess, Media Streaming Protocol: An Adaptive Protocol for the Delivery of Audio and Video over the Internet, University of Illinois at Urbana-Champaign, 1998; R. Koster, Design of a Multimedia Player with Advanced Qos Control, Oregon Graduate Institute of Science and Technology, January 1997; C. Poellabauer and K. Schwan, Coordinated CPU and Event Scheduling for Distributed Multimedia Applications, College of Computing Georgia Institute of Technology, R. West, Computing Science Department Boston University; and Windows Media—www.microsoft.com.

Claims

1. (Currently Amended) A method of delivering streams of content, the method comprising:
periodically querying a database for multiple playlists, wherein each playlist of the multiple
playlists is associated with multiple content items;

receiving the multiple playlists from the database based upon the periodic querying;
analyzing each of the received multiple playlists to determine content items that are already
cached on a ~~local disk~~; local disk and content items to be retrieved from a content source;
retrieving the content items to be retrieved for each of the received playlists from the content
source;
caching the retrieved content items on the local disk;
creating streams of content by, for each playlist of the multiple playlists, concatenating content
items associated with ~~[[the]]~~ said each playlist ~~into a stream of content~~;
upon receiving a request for one or more of the streams of content, transmitting the requested one
or more streams of content to at least one distribution point for relaying to at least one client terminal; and
in response to a disruption in the retrieval from the content source of content items associated
with a first playlist of the multiple playlists, wherein a first stream of content corresponds to the first
playlist:
continuing to advance through content items of the first playlist;
copying a first content item of the first playlist from the local disk to a memory cache
prior to reaching a last ~~track~~ content item of the first playlist;
linking the last content item of the first playlist to the first content item of the first playlist
to loop at least ~~some~~ one of the content items of the first playlist in the first stream of content; and
transmitting the first stream of content containing the looped at least one of the content
items of the first playlist to the at least one distribution point for relaying to the at least one client
terminal.

3. (Currently Amended) The method of claim ~~[[21]]~~ 1, further comprising:

checking for new content items of the first playlist as transmission of each of the content items of the first playlist finishes; and

if there are new content items of the first playlist, resuming normal transmission of the first stream of content.

6. (Currently Amended) The method of claim 1, further comprising:

providing metadata associated with at least one of the multiple content items; and

integrating the metadata with at least one of the one or more of the streams of content.

10. (Currently Amended) The method of claim 1, wherein at least one of the requested one or more of the streams of content is transmitted at a rate that is matched to a rate of play at the at least one client terminal.

11. (Currently Amended) A method of delivering streams of content, the method comprising:

periodically querying a database for multiple playlists, wherein a playlist of the multiple playlists is associated with multiple items of content;

receiving the multiple playlists from the database;

analyzing the received multiple playlists to determine items of content that are already locally ~~cached~~, cached and items of content to be retrieved from one or more content sources;

retrieving the items of content to be retrieved from the one or more of the content sources;

locally storing the retrieved items of content;

for at least a first playlist of the multiple playlists, concatenating associated items of content into a first stream;

upon receiving a request for the first stream, delivering the first stream to at least one distribution point for delivery to at least one client terminal; and

if retrieval of new items of content associated with the first playlist is disrupted:

continuing to advance through the first playlist for at least the first stream;

caching a first item of content of the first playlist into memory prior to reaching a last item of content of the first playlist;

linking the last item of content of the first playlist to the first item of content of the first playlist in order to repeat at least one of the items of content in the first stream; and

delivering the first stream containing the repeated at least one of the items of content to the at least one distribution point for delivery to the at least one client terminal.

14. (Currently Amended) The method of claim 11, wherein the multiple items of content include audio content.

15. (Currently Amended) The method of claim 11, wherein the multiple items of content include video content.

16. (Currently Amended) The method of claim 11, further comprising:

providing metadata associated with the multiple items of content; and

integrating the metadata with at least the first stream.

21. (Currently Amended) A content delivery system, comprising:

a processor; and

a memory, wherein the system is configured to:

~~means for~~ periodically ~~query~~ querying a database for multiple playlists, wherein a playlist of the multiple playlists is associated with multiple content items;

~~means for receiving~~ receive the multiple playlists from the database;

~~means for~~ locally store storing content items;

~~means for analyzing~~ analyze the received multiple playlists to determine which of the multiple content items ~~that are already stored by the means for locally storing content items~~ and content items to be retrieved from one or more content sources;

~~means for retrieving~~ retrieve the content items to be retrieved from the one or more content sources;

~~means for concatenating~~ concatenate associated content items into a first stream for at least a first playlist;

~~means for receiving~~ receive a request for the first stream;

~~means for delivering~~ deliver the first stream to at least one distribution point in response to the ~~request~~; request for delivery from the distribution point to at least one client terminal; and

wherein if retrieval of ~~new~~ content items associated with the first playlist is disrupted, the system is further configured to:

~~means for continuing~~ continue to advance through the first playlist for at least the first stream;

~~means for caching~~ cache a first content item of the first playlist into memory prior to reaching a last content item of the first playlist;

~~means for repeating~~ repeat at least the first content item of the first playlist in the first stream after the last content item of the first playlist is reached; and

~~means for delivering~~ deliver the first stream containing the repeated at least one of the content items to the at least one distribution point for delivery to the at least one client terminal.

23. (Currently Amended) The system of claim 21, ~~wherein the system is further configured to; further~~
~~comprising:~~

~~means for checking for new~~ check for content items of the first playlist as delivery of each of the
content items of the first playlist finishes; and

~~means for resuming~~ resume normal delivery of the first stream if there are new content items of
the first playlist.

24. (Currently Amended) The system of claim 21, wherein the multiple content items include audio
content.

25. (Currently Amended) The system of claim 21, wherein the multiple content items include video
content.

26. (Currently Amended) The system of claim 21, ~~wherein the system is further configured to; further~~
~~comprising:~~

~~means for integrating~~ integrate metadata associated with the content items within at least the first
~~streams~~ stream.

30. (Currently Amended) The system of claim 21, wherein a transmission rate of at least the first ~~streams~~
stream is matched to a rate of play at the at least one client terminal.

31. (Currently Amended) The method of claim 1, further comprising:

for each playlist, providing a buffer of a plurality of buffers with the stream of content corresponding to ~~[[the]]~~ said each playlist,

wherein transmitting the requested one or more of the streams of content includes transmitting the requested one or more of the streams of content from one or more of the plurality of buffers.

33. (Currently Amended) The ~~content delivery~~ system of claim 21, wherein the system is further configured to; further comprising;

~~means for buffering~~ buffer data; and

~~deliver the first stream from the buffered data~~

~~means for providing the means for buffering data with the first stream;~~

~~wherein the means for delivering the first stream delivers the first stream from the means for buffering.~~

36. (Currently Amended) The ~~content delivery~~ system of claim 21, wherein the system is further configured to; further comprising

~~means for removing~~ remove locally stored content items.

37. (Currently Amended) The method of claim 1, further comprising synchronizing the one or more of the streams of content with one or more schedules.

39. (Currently Amended) The ~~content delivery~~ system of claim 21, wherein the system is further configured to; further comprising

~~means for synchronizing~~ synchronize the first stream with a first schedule.

40. (New) A non-transitory computer-readable storage medium having instructions stored thereon for causing a computing device to perform operations for delivering streams of content, the operations comprising:

- periodically querying a database for multiple playlists, wherein a playlist of the multiple playlists is associated with multiple items of content;

- receiving the multiple playlists from the database;

- analyzing the received multiple playlists to determine items of content that are already locally cached and items of content to be retrieved from one or more content sources;

- retrieving the items of content to be retrieved from the one or more content sources;

- locally storing the retrieved items of content;

- for at least a first playlist of the multiple playlists, concatenating associated items of content into a first stream;

- upon receiving a request for the first stream, delivering the first stream to at least one distribution point for delivery to at least one client terminal; and

- if retrieval of new items of content associated with the first playlist is disrupted:

- continuing to advance through the first playlist for at least the first stream;

- caching a first item of content of the first playlist into memory prior to reaching a last item of content of the first playlist;

- linking the last item of content of the first playlist to the first item of content of the first playlist in order to repeat at least one of the items of content in the first stream; and

- delivering the first stream containing the repeated at least one of the items of content to the at least one distribution point for delivery to the at least one client terminal.

41. (New) The non-transitory computer-readable storage medium of claim 40, wherein the operations further comprise:

checking for new items of content of the first playlist as delivery of each of the items of content of the first playlist finishes; and

if there are new items of content of the first playlist, resuming normal delivery of the first stream.

42. (New) The non-transitory computer-readable storage medium of claim 40, wherein the operations further comprise:

providing metadata associated with the multiple items of content; and

integrating the metadata with at least the first stream.

43. (New) The non-transitory computer-readable storage medium of claim 40, wherein at least the first stream is transmitted at a rate that is matched to a rate of play at the at least one client terminal.

44. (New) The non-transitory computer-readable storage medium of claim 40, wherein the operations further comprise:

for at least the first playlist, providing one or more buffers with the first stream,

wherein delivering the first stream includes delivering the first stream from the one or more buffers.

45. (New) The non-transitory computer-readable storage medium of claim 40, wherein the operations further comprise:

removing locally stored items of content; and

synchronizing the first stream with a first schedule.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Friday 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joshua Joo/
Examiner, Art Unit 2454